

What is claimed is:

1. A device for coupling a data terminal equipment unit to a data signal carried by wiring in a building that carries a power signal simultaneously with the a data signal, said device comprising:

    a wiring connector for connecting said device to the wiring;

    a data coupler coupled to said wiring connector and having a data signal port operative to pass only a data signal;

    a modem coupled to said data signal port for full duplex data signal communication with the wiring;

    a data interface connector coupled to said modem for connecting to the data terminal equipment unit;

    a power coupler coupled to said wiring connector and having a power signal port operative to pass only the power signal; and

    a power supply coupled to said power signal port and to said modem to be powered by the power signal from the wiring and for powering said modem.

2. The device according to claim 1, further comprising means for mounting the device on a wall.

3. The device according to claim 1, wherein the device is included in an outlet.

4. The device according to claim 2, wherein the outlet is one of a telephone outlet and a power outlet.

5. The device according to claim 1, wherein the power signal is a direct current signal.

6. The device according to claim 1, wherein the power signal is an alternating current signal.

7. The device according to claim 1, wherein the wiring carrying the power signal is distinct/dedicated wiring.

8. The device according to claim 1, wherein the power and data signals are frequency multiplexed over the wiring, and at least one of said couplers further comprises a filter.

9. The device according to claim 1, wherein the device is addressable.

10. The device according to claim 9, wherein said device has a manually assigned address.

11. The device according to claim 9, wherein said device has an automatically assigned address.

12. The device according to claim 9, wherein said device has an address by the data terminal equipment unit coupled to the device.

13. The device according to claim 1, wherein at least one of said couplers comprises a center tap transformer.

14. The device according to claim 1, wherein at least part of the device is housed within an enclosure of the data terminal equipment unit.

15. The device according to claim 1, wherein the data signal includes a digitized telephony signal.

16. The device according to claim 1, further connectable to a telephone unit.

17. The device according to claim 1, further comprising a power connector coupled to said power signal port for powering a power consuming apparatus connected thereto.

18. A device for configuring a local area network in a building for the transport of power and data signals across a wiring, wherein the wiring includes at least first and second wiring segments, the device comprising:

first and second ports each connected to a respective one of said first and second wiring segments;

first and second data couplers each coupled to a respective one of said first and second ports, and each having a data signal port operative to pass only a data signal;

first and second modems each coupled to said data signal port of a respective one of said first and second data couplers, for full duplex data signal communication with a respective one of said first and second wiring segments;

at least one data interface connector coupled to at least one of said modems and operative for establishing a data signal connection with a data terminal equipment unit;

first and second power couplers each coupled to a respective one of said first and second ports, and each having a respective one of first and second power signal ports, each signal port being operative to pass only the power signal;

a power supply coupled to the first power signal port and to at least one of said modems to be powered by the power signal and for powering said modem; and

means for allowing the communication of a data signal over the first wiring segment to be independent of the communication of a data signal over the second wiring segment, wherein the second power signal port is coupled to the first power signal port.

19. The device according to claim 18, further comprising a power connector connectable to a power source for receiving power from the power source, the power connector being coupled to at least one power signal.

20. The device according to claim 18, further comprising means for mounting the device on a wall.

21. The device according to claim 18, wherein the device is included in an outlet.

22. The device according to claim 21, wherein the outlet is one of telephone outlet and a power outlet.

23. The device according to claim 18, wherein at least one of the power signals is a direct current signal.

24. The device according to claim 18, wherein at least one of the power signals is an alternating current signal.

25. The device according to claim 18, wherein at least one of the power signals is carried over a respective wiring segment using distinct/dedicated wiring.

26. The device according to claim 18, wherein power and data signals are carried frequency multiplexed over at least one of

the wiring segments, and at least one of said couplers further comprises a filter.

27. The device according to claim 18, wherein the device is addressable.

28. The device according to claim 27, wherein said device has a manually assigned address.

29. The device according to claim 27, wherein said device has an automatically assigned address.

30. The device according to claim 27, wherein said device has an address assigned by a data terminal equipment unit connected to the device.

31. The device according to claim 18, wherein at least one of said couplers comprises a center tap transformer.

32. The device according to claim 18, wherein at least part of the device is housed within an enclosure of the data terminal equipment unit.

33. The device according to claim 18, wherein at least one of the data signals includes a digitized telephony signal.

34. The device according to claim 18, wherein said device is connectable to a telephone unit.

35. The device according to claim 18, further comprising a power connector connectable to a power source for receiving

power from the power source, the power connector being coupled to at least one power signal.

36. A network for carrying data and power signals, said network comprising:

first, second and third nodes, each of said nodes containing at least one power consuming circuit;

first and second wiring segments in a building, each of said segments comprising at least two conductors, said first wiring segment coupling said first and second nodes to form a first bi-directional communication link and said second wiring segment coupling said first and third nodes to form a second bi-directional communication link,

wherein:

at least one of said wiring segments simultaneously carries both data and power signals;

said first communication link carries data independent of said second communication link;

each of said nodes is connectable to a data terminal equipment unit for coupling the data terminal equipment unit to at least one of said communication links;

at least a first one of said nodes is connectable to a power source for coupling the power source to said at least one power signal over a wiring segment connected to said first one of said nodes; and

at least a second one of said nodes is powered by a power signal carried over a wiring segment connected to said second one of said nodes.

37. The network according to claim 36, wherein at least one of the nodes is included in an outlet.

38. the network according to claim 37, wherein at least one of the nodes is included in one out of telephone outlet and powerline outlet.

39. The network according to claim 36, wherein at least one of said wiring segments is composed of wiring previously installed in the building.

40. The network according to claim 36, wherein at least one of the wiring segments is one of: telephone wiring; and power wiring.

41. The network according to claim 36, wherein the power signal is carried over at least one of said wiring segments using distinct/dedicated wiring.

42. The network according to claim 36, wherein the power and data signals are carried frequency multiplexed over at least one of said wiring segments.

43. The network according to claim 36, wherein at least one of said nodes is addressable.

44. The network according to claim 43, wherein said at least one of said nodes has a manually assigned address.

45. The network according to claim 43, wherein said at least one of said nodes has an automatically assigned address.

46. The device according to claim 43, wherein said at least one of said nodes has an address assigned by a data terminal equipment unit connected to said at least one of said nodes.

47. The network according to claim 36, wherein at least one of the nodes is housed within the enclosure of a data terminal equipment unit.

48. The network according to claim 36, wherein at least one of said communication links carries a digitized telephony signal.

49. The network according to claim 36, wherein at least one of said nodes is further connectable to a telephone unit.

50. The network according to claim 36, further comprising a power connector coupled to receive a power signal carried by said network for powering said at least one power consuming circuit contained in one of said nodes.

51. The device according to claim 36, wherein the power signal is a direct current signal.